

Arlington WPCP Non-expansion Capital

Category: Stormwater/Sewer Utility

Department Lead: Public Works

Type: Ongoing Project

Project Description, Benefit, and Schedule

The City of Falls Church is a wholesale customer of the Arlington Wastewater Pollution Control Plant (WPCP). As an Inter-Jurisdictional (IJ) partner, the City contributes to Capital Improvements on a cost-share basis according to the City's reserved capacity at the Plant (0.80 MGD). The City attends IJ meetings to discuss required plant improvements and upgrades, which are needed to maintain a state required level of operation and effluent discharge. The City's portion (based on reserved capacity / total plant capacity) of the improvements is 2.0% of the total costs listed below. The WPCP is currently in need of:

- Building improvements to Eads Street
- Secondary Clarifier rehab/replacement
- Solids management planning
- Capital master planning

**Capital Funding Plan**

Funding Source	Prior Approp.	Available Funding*	FY2017	FY2018	FY2019	FY2020	FY2021	Total
Local (Debt)	\$ 302,000	\$ 103,810	\$ 73,290	\$ 270,000	\$ 301,000	\$ 230,000	\$ 62,000	\$ 1,238,290
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Total:	\$ 302,000	\$ 103,810	\$ 73,290	\$ 270,000	\$ 301,000	\$ 230,000	\$ 62,000	\$ 1,238,290

Funding Notes: Projects thought to begin in FY16 have been delayed into FY17 so the funding request is lower than anticipated in last year's CIP.

**if no activity per City Charter (Section 6.19) in 3 years note as re-appropriation action*

Impact on Operating Costs

The impact of these capital costs have been incorporated into the City's most recent rate study.

Conformity with Comprehensive Plan and Council Strategic Plan

The upgrade of the Arlington Water Pollution Control Plant meets goals of the Comprehensive Plan's "Community Facilities, Public Utilities and Government Services" chapter such as:

- Ensure that a sufficient level of public facilities utilities services are available to meet the needs of the community
- Identify and prioritize facilities that require upgrading
- Ensure the most efficient and effective management of sanitary sewer systems

Alexandria Wastewater Treatment Upgrades

Category: Stormwater/Sewer Utility

Department Lead: Public Works

Type: Ongoing Project

Project Description, Benefit, and Schedule

The City of Falls Church is a wholesale customer of the Alexandria Renew Wastewater Treatment Plant. When improvements to the treatment process are required to maintain the level of service specified by the plant's discharge permit the City is responsible for its share of the costs based on the City's reserved capacity at the plant. The City currently has 1.0 million gallons per day reserved, which equates to a 1.8% share of the cost to improvements. The City attends IJ meetings to discuss required plant improvements and upgrades.

The proposed CIP includes estimated costs to:

- Complete the nitrogen and phosphorus removal upgrades (SANUP)
- Implement a wet weather management strategy
- Upgrade UV disinfection system and scum system
- Replace blower system for biological reactor and settling basins

**Capital Funding Plan**

Funding Source	Prior Approp.	Available Funding*	FY2017	FY2018	FY2019	FY2020	FY2021	Total
Local (Debt)	\$ 4,342,172	\$ 370,290	\$ 450,000	\$ 434,790	\$ 481,140	\$ 446,040	\$ 423,540	\$ 6,577,682
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Total:	\$ 4,342,172	\$ 370,290	\$ 450,000	\$ 434,790	\$ 481,140	\$ 446,040	\$ 423,540	\$ 6,577,682

Funding Notes: Project cost estimate and expenditure schedule provided by Alexandria Renew via the FY16 budget adopted Sept. 15, 2015.

**if no activity per City Charter (Section 6.19) in 3 years note as re-appropriation action*

Impact on Operating Costs

The impact of these capital costs have been incorporated into the City's most recent rate study.

Conformity with Comprehensive Plan and Council Strategic Plan

The upgrade of the Alexandria Wastewater Plant meets goals of the Comprehensive Plan's "Community Facilities, Public Utilities and Government Services" chapter such as:

- Ensure that a sufficient level of public facilities utilities services are available to meet the needs of the community
- Identify and prioritize facilities that require upgrading
- Ensure the most efficient and effective management of sanitary sewer systems

Alexandria Wastewater Treatment Plant Capacity

Category: Stormwater/Sewer Utility

Department Lead: Public Works

Type: New Project

Project Description, Benefit, and Schedule

The City currently has 1.0 MGD sanitary sewer treatment capacity from Fairfax County for use of the Alexandria Renew Wastewater Treatment Plant (sewage flows into Fairfax County and eventually to the plant in Alexandria). The projected flows from future development within the City will exceed the current capacity. Based on the future flows, an additional 0.4 MGD capacity will be required. This project will purchase the additional capacity over a 3-year period.

**Capital Funding Plan**

Funding Source	Prior Approp.	Available Funding*	FY2017	FY2018	FY2019	FY2020	FY2021	Total
Local (Debt)	\$ -	\$ -	\$ -	\$ 1,870,000	\$ 1,870,000	\$ 1,860,000	\$ -	\$ 5,600,000
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Total:	\$ -	\$ -	\$ -	\$ 1,870,000	\$ 1,870,000	\$ 1,860,000	\$ -	\$ 5,600,000

Funding Notes: Cost estimate based on phone conversation with Fairfax County staff on the cost to purchase 0.4 MGD capacity at \$14 million/1 MGD of capacity

Once City-wide sewer modeling is complete in FY16 staff will narrow down capacity needs to allow for future development.

**if no activity per City Charter (Section 6.19) in 3 years note as re-appropriation action*

Impact on Operating Costs

Associated O&M costs will increase.

Conformity with Comprehensive Plan and Council Strategic Plan

The upgrade of the Alexandria Wastewater Plant meets goals of the Comprehensive Plan's "Community Facilities, Public Utilities and Government Services" chapter such as:

- Ensure that a sufficient level of public facilities utilities services are available to meet the needs of the community
- Identify and prioritize facilities that require upgrading
- Ensure the most efficient and effective management of sanitary sewer systems

Sanitary Sewer Rehabilitation

Category: Stormwater/Sewer Utility

Department Lead: Public Works

Type: Ongoing Project

Project Description, Benefit, and Schedule

A systematic approach to sewer line rehabilitation is being pursued throughout the City's sanitary sewer system. Based on consultant recommendations, a 30-year program has been developed. This is an on-going project to rehabilitate pipes with a process for reconstructing aged, damaged and deteriorated sewer lines. A new cured-in place pipe is formed inside of the existing sewer pipe by using water pressure to install a flexible tube saturated with a liquid thermosetting resin. The water is then heated to harden the resin. This process increases the sewer capacity (due to the smoothness of the new interior surface). It also results in a continuous, tight fitting, pipe-within-a-pipe and reduces infiltration and inflow (I&I). This is a relatively non-invasive and cost-effective process because there is little excavation required. This on-going project, begun in FY2004, will continue until the entire system is rehabilitated. Smoke testing and video inspection are performed to guide the decision process for selecting sewer mains for rehabilitation. In some cases a new sewer main may be a proposed solution to a localized capacity issue.

**Capital Funding Plan**

Funding Source	Prior Approp.	Available Funding*	FY2017	FY2018	FY2019	FY2020	FY2021	Total
Local (PAYGO)	\$ 4,583,943	\$ 396,384	\$ 550,000	\$ 600,000	\$ 650,000	\$ 700,000	\$ 750,000	\$ 7,833,943
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Total:	\$ 4,583,943	\$ 396,384	\$ 550,000	\$ 600,000	\$ 650,000	\$ 700,000	\$ 750,000	\$ 7,833,943

Funding Notes: Estimated construction cost of \$9M to rehabilitate entire system based upon current contract prices.

**if no activity per City Charter (Section 6.19) in 3 years note as re-appropriation action*

Impact on Operating Costs

The impact on the sewer reserve fund balance will be offset by programmed sewer rate increases. Long-term cost savings in maintenance of pipe network and reduced treatment costs due to less infiltration.

Conformity with Comprehensive Plan and Council Strategic Plan

The continued needed maintenance of the sewer system meets goals of the Comprehensive Plan's "Community Facilities, Public Utilities and Government Services" chapter such as:

- Ensure that a sufficient level of public facilities utilities services are available to meet the needs of the community
- Identify and prioritize facilities that require upgrading
- Explore new technology to update and operate the City's utilities system

Stormwater Facilities Reinvestments

Category: Stormwater/Sewer Utility

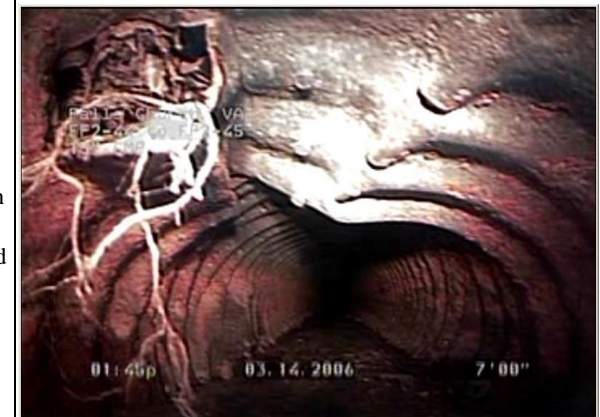
Department Lead: Public Works

Type: Ongoing Project

Project Description, Benefit, and Schedule

The Department of Public Works maintains over 140,000 linear feet of storm lines and approximately 1,400 appurtenances. In many parts of the city, the system is nearing the end of its service life or is undersized and unable to convey the industry standard 10-year storm event. These deficiencies result in flooding along streets and on private property. In addition to these water quantity concerns associated with conveyance, the City is a storm water permittee with the Virginia Department of Environmental Quality. The permit obligates compliance with Federal and State Clean Water Act requirements due to water quality concerns in our watershed.

Virginia's Chesapeake Bay TMDL Watershed Implementation Plan outlines the level of effort required by the City to comply and ultimately meet water quality goals. The City's obligation to meet the Chesapeake Bay TMDL is expected to require over \$15 million in expenditures prior to 2025. The proposed CIP funding addresses immediate stormwater infrastructure needs as outlined in the Council-adopted Watershed Management Plan and for critical infrastructure projects as they arise. However, the infrastructure needed to meet the City's TMDL obligation through FY2019 as well as reinvestments into the City's aging conveyance infrastructure will need additional funding in out years.

**Capital Funding Plan**

Funding Source	Prior Approp.	Available Funding*	FY2017	FY2018	FY2019	FY2020	FY2021	Total
Local (Debt)	\$ 2,800,000	\$ 1,935,000	\$ -	\$ -	\$ 1,000,000	\$ 1,250,000	\$ 1,500,000	\$ 6,550,000
Local (PAYGO)	\$ 379,776	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 379,776
SLAF Grant	\$ 82,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 82,500
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total:	\$ 3,262,276	\$ 1,935,000	\$ -	\$ -	\$ 1,000,000	\$ 1,250,000	\$ 1,500,000	\$ 7,012,276

Funding Notes: There has been no Stormwater CIP funding authorized since FY15 despite the need for additional funds in order to systematically repair and replace the City's infrastructure. At this time the revenue generated by the Stormwater Utility Fee is insufficient to support additional debt service. The utility rate will need to be increased in order to support the request starting in FY19. Staff has been successful in leveraging current funding with federal and local grants.

**if no activity per City Charter (Section 6.19) in 3 years note as re-appropriation action*

Impact on Operating Costs

Over time, improvements to storm water infrastructure can be expected to decrease operating costs, as staff time and equipment dedicated to addressing clogs, repairs, and malfunctions is reduced.

Conformity with Comprehensive Plan and Council Strategic Plan

Repairing inadequate storm water systems meets Comprehensive Plan goals found in the "Natural Resources and the Environment" and "Community Facilities, Public Utilities and Government Services" chapters. Relevant Comprehensive Plan goals include:

- Determine whether existing public facilities require renovation
- Identify and prioritize facilities and programs in the greatest need of upgrading
- Ensure the adequacy of the City's present and future storm water management systems